

OIB - P-3 Orion 03/12/17 Science Report

Aircraft:

[P-3 Orion](#) ([See full schedule](#))

Date:

Sunday, March 12, 2017

Mission:

OIB

Mission Location:

Greenland

Mission Summary:

IceBridge completed the medium priority North Beaufort Loop. This flight is intended to sample sea ice in the western Arctic Basin along north-south gradients in the Beaufort Sea, and to improve gaps in previous coverage primarily in the northeastern Beaufort. We overflew three mooring sites of the Beaufort Gyre Exploration Project equipped with upward-looking sonar known as GAM-1 (at 20:41:24Z), BGOS-B (at 21:24:50Z) and BGOS-C (at 22:06:07Z). The eastern and westernmost legs were flown along IceSat-2 ground tracks. In addition to Level-1 Requirements SI1 and SI2, the flight addresses sea ice requirement SIP2d by extending sea ice baseline observations to the southern Chukchi Sea north of the Bering Strait. A Sentinel-3A orbit was flown during the flight within about two hours of the satellite overpass which occurred at 2302Z. A short snow survey near the Fairbanks Airport was also overflown to deduce the ability of the IceBridge instrument suite to monitor snow on land though due to a network issue ATM was not able to collect data.

Weather for the survey was forecast to be clear along most of the line, with the GFS model showing clouds towards the northern section as well as near the Alaskan coast. This mission was our best option given clouds in other areas of the Fairbanks-based missions. As forecast, clouds were encountered along the northern edge of loop and the eastern leg near the Alaskan coast. The clouds were heavy at times and we descended to 1000 feet to range underneath, though they were thick enough at times to cause data loss. Overall, about 90% of the line was covered making for another successful mission.

Data volumes

ATM: T5: 20 Gb T6: 117 Gb

FLIR: 11.0 Gb

Cambot: 23 Gb

KT19: 7 Mb

DMS: 59.3 Gb

Snow/Ku radar: 1020 Gb

MCoRDS: 11 Gb for noise analysis

Accumulation radar: Did not run

data on: 1850

data off: 2353

Submitted by:

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File:

 [sinbeaufortloop.pdf](#)

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